

CLAIMS

1. Braking method for a vehicle, for use as a safety measure and replacement function in the event that a working brake system of the vehicle fails, in particular the X-by-wire brake system of a motor vehicle, characterized in that the vehicle is braked with the help of the transmission by means of a defined engagement of frictional shift elements until the vehicle is at rest, such that the combination of frictional shift elements engaged when the working brake system of the vehicle fails does not correspond to the shift logic of a gear during normal driving operation of the vehicle.

2. Braking method for a vehicle according to claim 1, characterized in that starting from the gear engaged at the time when the vehicle's working brake system fails, at least one additional frictional shift element of the transmission is engaged in such manner that the drive wheels of the vehicle undergo maximum or a specified braking, but such that the vehicle's drive wheels are not locked while the actual speed of the vehicle is greater than a defined value.

3. Braking method for a vehicle according to claims 1 or 2, characterized in that as soon as the failure of the vehicle's working brake system has been recognized, the vehicle is automatically braked by means of the transmission.

4. Braking method for a vehicle according to claims 1 or 2, characterized in that if the vehicle's working brake system fails, the vehicle is automatically braked by the transmission when a vehicle brake pedal is actuated.

5. Braking method for a vehicle according to any of the preceding claims, characterized in that as a function of the vehicle's actual speed a respective shift element combination is engaged, whereby optimum or maximum vehicle braking is achieved with the least possible stress on the transmission or the frictional shift elements of the transmission.

6. Braking method for a vehicle according to any of the preceding claims, characterized in that a shifting pressure or a torque is set at the first frictional shift element engaged additionally compared with the normal shift logic, the shifting pressure or torque to be set being determined as a function of the brake pedal

actuation force and/or the ACC-radar sensor (distance control unit) and/or the actual speed of the vehicle.

7. Braking method for a vehicle according to any of the preceding claims, characterized in that a shift takes place to a second additional frictional shift element of the transmission compared with the normal shift logic, when the limiting thermal load of the first frictional shift element engaged additionally compared with normal shift logic is reached.

8. Braking method for a vehicle according to any of the preceding claims, characterized in that a shift to a higher or lower gear with a different combination of frictional shift elements takes place, when the limiting thermal load of the first frictional shift element engaged additionally compared with normal shift logic is reached.

9. Braking method for a vehicle according to any of the preceding claims, characterized in that the vehicle is braked additionally or alternatively by actuating two frictional shift elements in the transmission or a separate frictional shift element acting on the drive output of the transmission.

10. Braking method for a vehicle according to any of the preceding claims, characterized in that when the vehicle is nearly or actually at rest a parking lock of the transmission and/or a parking brake of the vehicle is/are automatically engaged.

11. Use of the braking method for a vehicle according to any of the preceding claims, for braking a vehicle that comprises a change-under-load transmission, a continuously variable transmission, an automated shift transmission or a dual clutch transmission.